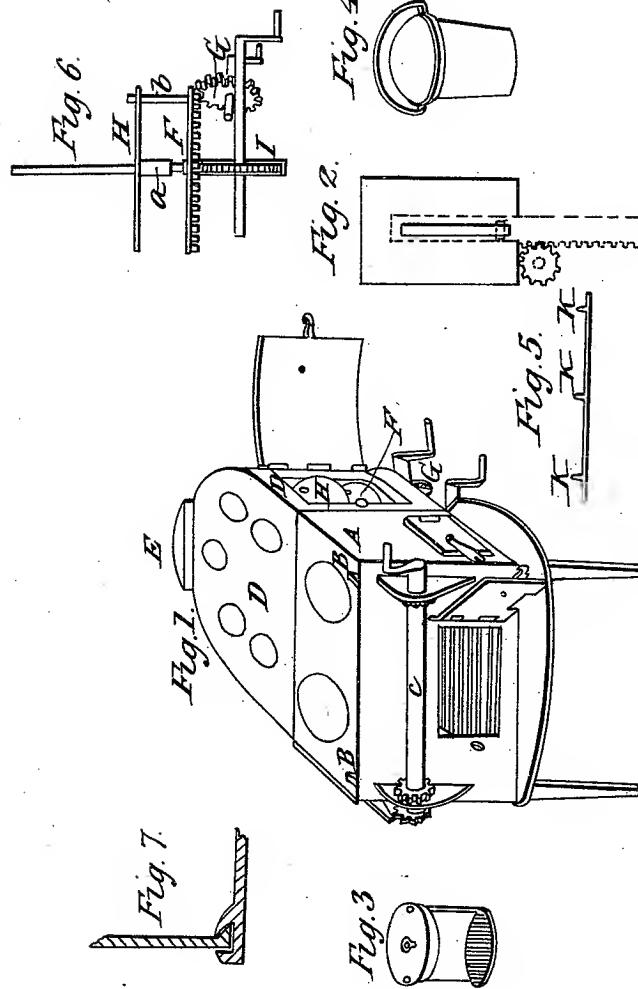


B. H. WOOD.

Cooking Stove.

No. 114.

Patented Jan'y 31, 1837.



UNITED STATES PATENT OFFICE.

BENJAMIN H. WOOD, OF BATH, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 114, dated January 31, 1837.

To all whom it may concern:

Be it known that I, BENJAMIN H. WOOD, of Bath, in the county of Steuben and State of New York, have invented an Improvement in Cooking-Stoves; and I do hereby declare that the following is a full and exact description thereof, reference being had to the drawings which accompany and make a part of this specification.

10 This stove may vary considerably in form, and some of the improvements which I have made may be applied to almost every variety of cast-iron stoves. That form which is represented in Figure 1, is that which I esteem the most convenient for the illustration and application of all my improvements.

15 A, A, is the furnace, or fire-place, which is a rectangular box, represented as having a feed door, for admitting fuel, both at the front and end, and being provided with holes at top for the reception of cooking utensils.

20 B, B, are two racks which pass through openings in the top plate of the fire-place, and are connected at their lower ends with the grate upon which the fuel rests.

25 C, is a shaft crossing the front of the stove, and having pinions upon it which take into the teeth of the racks, so that when the shaft is turned by means of a winch, the grate, with the fuel thereon, may be raised or lowered, as it may be required to act with greater or with less intensity upon the cooking

30 utensils. The racks may, if preferred, be placed at each end of the furnace, the end door being, in this case, omitted, and the shaft crossing the middle of the furnace below the bottom plate. It will be best in this

35 case to place the racks on the outside of the end plates, a vertical slot, or opening, being made up the middle of each of these plates through which tongues pass that connect the grate with the racks, which openings may be entirely covered by the racks. One of the end plates, with its slot, or opening, covered by the rack, is shown in Fig. 2, the rack being represented by red lines. Instead of the rack and pinion, a chain passing over a

40 pulley, and acted on by a revolving shaft, may be employed to raise and lower the grates.

45 D, D, is the oven part of this stove, over, under, or around the sides of, which, flues are to extend to convey the heated air from the fire into a smoke pipe, or flue, E, at the

50 back thereof. As represented in the drawing there is a flue extending over the top of the oven, and the top plate is perforated to receive cooking utensils. When the flue does not extend over the top, such perforations cannot be made. I am aware that flues to ovens have received every possible direction, and I do not, therefore, think it necessary, nor do I intend, to confine myself to any particular arrangement, or direction, of them; it being necessary, only, that the flues be so constructed as to communicate a sufficient degree of heat to the oven. The door of the oven is represented as open, showing parts of two circular, revolving plates to be now described, which are also represented in section at Fig. 6.

55 F, is a circular plate which rests on the bottom of the oven, the width and depth of the oven being nearly equal; and, consequently, allowing such a plate to cover the larger portion of its surface. This plate has teeth, or cogs, on its under side, near to its periphery, by means of which it may be made to revolve, there being a pinion, G, which passes through a slot, or opening, in the bottom of the oven, to admit the teeth of the pinion to engage with those of the circular plate; the pinion is turned by means of a winch, and the articles upon the circular plate may, therefore, be readily transferred from one to another of the oven.

60 H, is a second circular plate which revolves with the plate F, but may be raised, or lowered, so as to cause it to approach or recede from the top or bottom of the oven as may be desired. There is a vertical rack I, which may be operated on by means of a pinion K, as shown in the drawing. This rack, or a shaft extending up from it, passes through the bottom of the oven, and through the center of the plate, F, and receives the plate H, which has a round pin a in its center, descending from its under side, and fitting into a hole, or socket, in the upper end of the rack I; this plate can, consequently, revolve upon the upper end of the rack, while the latter remains stationary. To cause the plates, F and H, to revolve together, there is a rod b which rises, vertically, near the periphery of the lower plate, and reaching nearly to the top of the oven; this rod is firmly attached to the lower, circular plate, but plays freely in a hole in the upper plate, thus allowing the latter to be raised and lowered independently, whilst

the rod compels it to turn when the lower plate revolves.

Modes of raising and lowering the furnace grate, of causing the oven plates to revolve, and of raising the upper circular plate, different from those which I have described, may be adopted, and a similar result attained. The grate may be raised by pulleys and chains, instead of by a rack and pinion; the center pin of the upper circular plate, instead of passing into a hole in the top of the rack, may descend through a socket, and project through the bottom oven plate, where it may be operated upon by a lever, a cam, or otherwise, when it is desired to raise it.

I put the plates of my stove together in a manner which I believe to be perfectly new, as applied to this purpose, and which does not require the aid of wrought iron rods, bolts, or nuts. This improvement is applicable to cast-iron stoves of various descriptions, and particularly to those which are composed of flat plates. The following is my mode of procedure in this particular.

Instead of making grooves, or ledges, in the ordinary form, upon the bottom, and other parts, to receive the edges of corresponding plates, I cast them with dovetail grooves, adapting the lower edges of the front and back plates thereto, as well as such other portions as may suit this mode of putting together, so that they shall enter the dovetail grooves at one end, slide therein freely, and when in their places be securely held there. The end and the top plates being thus made to slide into their places by means of such dovetail grooves, in like manner, require no other fastening, as represented at Fig. 7. As it is desirable to be able to boil water, cook a steak, or perform some other culinary operation, in warm weather, without the waste and inconvenience consequent upon heating a large cooking apparatus, I have devised a means of effecting this in a convenient and economical manner. Fig. 3, represents a gridiron, J, suspended from a cover which fits on to one of the openings of the top plate of the stove; and by means of a few live coals upon the grate, which may be raised so as to bring them near to the gridiron, the broiling may

be effected, and the fumes carried off by the ordinary flue. When a kettle is to be used to boil water, I adopt a cylindrical, portable furnace to one of the openings, upon which furnace the kettle is to be placed. This furnace has a grate independent of that of the stove, and there is an opening in one side of it, near its top, to allow the smoke to pass to the ordinary flue. Such a furnace is seen at Fig. 4, and it may be used independently of the stove.

It is of great importance that in such a stove as I have described the back plate of the furnace should become highly heated, in order that the oven may be sufficiently so, which would be prevented by stopping the draft between the fuel and the back plate; that this may not take place, I extend ribs, or ridges, up the back plate, within the furnace, and also on the front plate, in the manner shown at K, K, K, Fig. 5, which is a horizontal section through such a plate.

I do not claim to be the inventor of the raising of a grate by means of a windlass, or other analogous contrivance, this, standing alone, not being new; nor do I claim the mere making of a circular plate to revolve upon the bottom of an oven, by means of a rack, and pinion, this also, having been effected, although by other means; but

What I do claim is—

1. The combination of the apparatus for raising the furnace grate with a stove having a revolving bottom plate to the oven thereof, conjoined with the second plate H herein described, which is capable of being raised and lowered, and of revolving with the bottom plate, by means analogous to those described, and for the purposes herein set forth.

2. I claim also the manner of putting together of cast-iron stoves of any description, by means of dovetailed tongues and grooves; and the placing of ribs, or ridges, up the back plate of the furnace, to admit the flame and heated air to come into contact therewith.

B. H. WOOD.

Witnesses:

THOS. P. JONES,
B. K. MORSELL.